U.S NAT 'L STAGE WORKSHEET /EO)

U.S. APPL. NO. 10/567749 INTERNATIONAL APPL. EP04/00870

APPLICATION FILED BY: 20 MOS.. ____ OR 30 MOS. X SCREENED BY

NTERNATIONAL APPLICATION PAPERS IN THE APPLICATION FILE:

X International application
Article 19 amendments
X Priority Document(s) No. 3
X Request Form PCT/RO/101
PCT/IB/302
X PCT/IB/304
PCT/IB/306
X PCT/IB/308
PCT/IB/331
OTHER PCT/IB/237
PCT/IPBA/409 also 416

___ 409 annexes to IPER
___ PCT/ISA/210 (Search report)
X Search report References
___ Other Papers filed

WIPO PUBLICATION
PUBLICATION NO. WO 05/014843
PUBLICATION DATE 17 FEB 05
PUBLICATION LANG. ENGLISH
NOT PUBLISHED
___ U.S. only ___ Requested

CEIVED FROM THE APPLICANT: (other than checked above)

X tional application basic fee paid
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ticle 19 Amendments
endment used in application
ticle 34 Amendment
endment used in application
A
4 transaction done

X Preliminary Amendment(s) filed 10 FEB 2006
___ second submission
___ Information Disclosure Statement
___ second submission
___ Assignment
___ Forward to Assignment Branch
X Substitute Specification 10 FEB 2006
___ Small Entity Statement
type
X Oath/Declaration (date submitted 10 FEB 2006)
___ Not executed
X Executed
___ Power of Attorney
___ Change of Address

data sheet

C Receipt of Request (PTO – 1399 Transmittal Letter) 10 Feb 2006
ceptable oath/declaration received 10 FEB 2006
Date 10 FEB 2006
mplete 35 USC 371 requirements met 10 FEB 2006

DATE NOTICE COMPLETED

903 Notice of Acceptance
905 Notice of Missing Requirements
917 Notice of A defective oath or declaration
916 Notice of defective response

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STIC Biotechnology Systems Branch

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Application Serial Number: 10/567,749
Source: IFWP
Date Processed by STIC: 02/28/2006

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Revised 01/10/06

IFWP

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PATENT APPLICATION: US/10/567,749 TIME: 12:03:09

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Output Set: N:\CRF4\02282006\J567749.raw

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C--> 4 <141> CURRENT FILING DATE: 2006-02-10

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Corrected Diskette Needed
(pg 1-11)

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94 1 5 10 15
96 Phe Asp Glu Asn Gly Val Glu Val Phe Asp Glu Lys Ala Leu Val Glu
97 20 25 30
99 Gln Glu Pro Ser Asp Asn Asp Leu Ala Glu Glu Glu Leu Leu Ser Gln
100 35 40 45
102 Gly Ala Thr Gln Arg Val Leu Asp Ala Thr Gln Leu Tyr Leu Gly Glu
103 50 55 60
105 Ile Gly Tyr Ser Pro Leu Leu Thr Ala Glu Glu Glu Val Tyr Phe Ala
106 65 70 75 80
109 Arg Arg Ala Leu Arg Gly Asp Val Ala Ser Arg Arg Arg Met Ile Glu
110 85 90 95
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113 100 105 110
115 Gly Leu Ala Leu Leu Asp Leu Ile Glu Glu Gly Asn Leu Gly Leu Ile
116 115 120 125
118 Arg Ala Val Glu Lys Phe Asp Pro Glu Arg Gly Phe Arg Phe Ser Thr
119 130 135 140
121 Tyr Ala Thr Trp Trp Ile Arg Gln Thr Ile Glu Arg Ala Ile Met Asn
122 145 150 155 160
124 Gln Thr Arg Thr Ile Arg Leu Pro Ile His Ile Val Lys Glu Leu Asn
125 165 170 175
127 Val Tyr Leu Arg Thr Ala Arg Glu Leu Ser His Lys Leu Asp His Glu
128 180 185 190
130 Pro Ser Ala Glu Glu Ile Ala Glu Gln Leu Asp Lys Pro Val Asp Asp
131 195 200 205
133 Val Ser Arg Met Leu Arg Leu Asn Glu Arg Ile Thr Ser Val Asp Thr
134 210 215 220

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PATENT APPLICATION: US/10/567,749 TIME: 12:03:09

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Output Set: N:\CRF4\02282006\J567749.raw

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     143             260                 265                 270
     145 Val Leu Ala Arg Arg Phe Gly Leu Leu Gly Tyr Glu Ala Ala Thr Leu
     146         275                 280                 285
     148 Glu Asp Val Gly Arg Glu Ile Gly Leu Thr Arg Glu Arg Val Arg Gln
     149     290                 295                 300
     151 Ile Gln Val Glu Gly Leu Arg Arg Leu Arg Glu Ile Leu Gln Thr Gln
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     167 gccgaagagg aactgttatc gcagggagcc acacagcgtg tgttggacgc gactcagctt    180
     169 taccttggtg agattggtta ttcaccactg ttaacggccg aagaagaagt ttattttgcg    240
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     175 gaagagggca acctggggct gatccgcgcg gtagagaagt ttgacccgga acgtggtttc    420
     177 cgcttctcaa catacgcaac ctggtggatt cgccagacga ttgaacgggc gattatgaac    480
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     185 tcggtagaca ccccgctggg tggtgattcc gaaaaagcgt tgctggacat cctggccgat    720
     187 gaaaaagaga acggtccgga agataccacg caagatgacg atatgaagca gagcatcgtc    780
     189 aaatggctgt tcgagctgaa cgccaaacag cgtgaagtgc tggcacgtcg attcggtttg    840
     191 ctggggtacg aagcggcaac actggaagat gtaggtcgtg aaattggcct cacccgtgaa    900
     193 cgtgttcgcc agattcaggt tgaaggcctg cgccgtttgc gcgaaatcct gcaaacgcag    960
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E--> 200 <400> SEQUENCE: 4
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PATENT APPLICATION: US/10/567,749 TIME: 12:03:09

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Output Set: N:\CRF4\02282006\J567749.raw

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215 tta aga gca gtg ctg cgc gcg ccg gtt tac gag gcg gcg cag gtt acg       96
216 Leu Arg Ala Val Leu Arg Ala Pro Val Tyr Glu Ala Ala Gln Val Thr
217             20                  25                  30
219 ccg cta caa aaa atg gaa aaa ctg tcg tcg cgt ctt gat aac gtc att      144
220 Pro Leu Gln Lys Met Glu Lys Leu Ser Ser Arg Leu Asp Asn Val Ile
221         35                  40                  45
223 ctg gtg aag cgc gaa gat cgc cag cca gtg cac agc ttt aag ctg cgc      192
224 Leu Val Lys Arg Glu Asp Arg Gln Pro Val His Ser Phe Lys Leu Arg
225     50                  55                  60
227 ggc gca tac gcc atg atg gcg ggc ctg acg gaa gaa cag aaa gcg cac      240
228 Gly Ala Tyr Ala Met Met Ala Gly Leu Thr Glu Glu Gln Lys Ala His
229 65                  70                  75                  80
231 ggc gtg atc act gct tct gcg ggt aac cac gcg cag ggc gtc gcg ttt      288
232 Gly Val Ile Thr Ala Ser Ala Gly Asn His Ala Gln Gly Val Ala Phe
233                 85                  90                  95
235 tct tct gcg cgg tta ggc gtg aag gcc ctg atc gtt atg cca acc gcc      336
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237             100                 105                 110
239 acc gcc gac atc aaa gtc gac gcg gtg cgc ggc ttc ggc ggc gaa gtg      384
240 Thr Ala Asp Ile Lys Val Asp Ala Val Arg Gly Phe Gly Gly Glu Val
241         115                 120                 125
243 ctg ctc cac ggc gcg aac ttt gat gaa gcg aaa gcc aaa gcg atc gaa      432
244 Leu Leu His Gly Ala Asn Phe Asp Glu Ala Lys Ala Lys Ala Ile Glu
245     130                 135                 140
247 ctg tca cag cag cag ggg ttc acc tgg gtg ccg ccg ttc gac cat ccg      480
248 Leu Ser Gln Gln Gln Gly Phe Thr Trp Val Pro Pro Phe Asp His Pro
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251 atg gtg att gcc ggg caa ggc acg ctg gcg ctg gaa ctg ctc cag cag      528
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253                 165                 170                 175
255 gac gcc cat ctc gac cgc gta ttt gtg cca gtc ggc ggc ggc ggt ctg      576
256 Asp Ala His Leu Asp Arg Val Phe Val Pro Val Gly Gly Gly Gly Leu
257             180                 185                 190
259 gct gct ggc gtg gcg gtg ctg atc aaa caa ctg atg ccg caa atc aaa      624
260 Ala Ala Gly Val Ala Val Leu Ile Lys Gln Leu Met Pro Gln Ile Lys
261         195                 200                 205
264 gtg atc gcc gta gaa gcg gaa gac tcc gcc tgc ctg aaa gca gcg ctg      672
265 Val Ile Ala Val Glu Ala Glu Asp Ser Ala Cys Leu Lys Ala Ala Leu
266     210                 215                 220
268 gat gcg ggt cat ccg gtt gat ctg ccg cgc gta ggg cta ttt gct gaa      720
269 Asp Ala Gly His Pro Val Asp Leu Pro Arg Val Gly Leu Phe Ala Glu
270 225                 230                 235                 240
272 ggc gta gcg gta aaa cgc atc ggt gac gaa acc ttc cgt tta tgc cag      768
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PATENT APPLICATION: US/10/567,749 TIME: 12:03:09

Input Set : A:\pto.da.txt
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278             260                 265                 270
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281 Ala Met Lys Asp Leu Phe Glu Asp Val Arg Ala Val Ala Glu Pro Ser
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286     290                 295                 300
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289 Ile Arg Gly Glu Arg Leu Ala His Ile Leu Ser Gly Ala Asn Val Asn
290 305                 310                 315                 320
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293 Phe His Gly Leu Arg Tyr Val Ser Glu Arg Cys Glu Leu Gly Glu Gln
294                 325                 330                 335
296 cgt gaa gcg ttg ttg gcg gtg acc att ccg gaa gaa aaa ggc agc ttc     1056
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302         355                 360                 365
304 tac cgt ttt gcc gat gcc aaa aac gcc tgc atc ttt gtc ggt gtg cgc     1152
305 Tyr Arg Phe Ala Asp Ala Lys Asn Ala Cys Ile Phe Val Gly Val Arg
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310 385                 390                 395                 400
312 gac ggc ggc tac agc gtg gtt gat ctc tcc gac gac gaa atg gcg aag     1248
313 Asp Gly Gly Tyr Ser Val Val Asp Leu Ser Asp Asp Glu Met Ala Lys
314                 405                 410                 415
316 cta cac gtg cgc tat atg gtc ggc gga cgt cca tcg cat ccg ttg cag     1296
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321 Glu Arg Leu Tyr Ser Phe Glu Phe Pro Glu Ser Pro Gly Ala Leu Leu
322         435                 440                 445
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325 Arg Phe Leu Asn Thr Leu Gly Thr Tyr Trp Asn Ile Ser Leu Phe His
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331 465                 470                 475                 480
333 ctt ggc gac cat gaa ccg gat ttc gaa acc cgg ctg aat gag ctg ggc     1488
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335                 485                 490                 495
337 tac gat tgc cac gac gaa acc aat aac ccg gcg ttc agg ttc ttt ttg     1536
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PATENT APPLICATION: US/10/567,749 TIME: 12:03:09

Input Set : A:\pto.da.txt
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354         35                  40                  45
356 Leu Val Lys Arg Glu Asp Arg Gln Pro Val His Ser Phe Lys Leu Arg
357     50                  55                  60
359 Gly Ala Tyr Ala Met Met Ala Gly Leu Thr Glu Glu Gln Lys Ala His
360 65                  70                  75                  80
362 Gly Val Ile Thr Ala Ser Ala Gly Asn His Ala Gln Gly Val Ala Phe
363                 85                  90                  95
365 Ser Ser Ala Arg Leu Gly Val Lys Ala Leu Ile Val Met Pro Thr Ala
366             100                 105                 110
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369         115                 120                 125
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372     130                 135                 140
374 Leu Ser Gln Gln Gln Gly Phe Thr Trp Val Pro Pro Phe Asp His Pro
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378                 165                 170                 175
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381             180                 185                 190
383 Ala Ala Gly Val Ala Val Leu Ile Lys Gln Leu Met Pro Gln Ile Lys
384         195                 200                 205
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387     210                 215                 220
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391 225                 230                 235                 240
393 Gly Val Ala Val Lys Arg Ile Gly Asp Glu Thr Phe Arg Leu Cys Gln
394                 245                 250                 255
396 Glu Tyr Leu Asp Asp Ile Ile Thr Val Asp Ser Asp Ala Ile Cys Ala
397             260                 265                 270
399 Ala Met Lys Asp Leu Phe Glu Asp Val Arg Ala Val Ala Glu Pro Ser
400         275                 280                 285
402 Gly Ala Leu Ala Leu Ala Gly Met Lys Lys Tyr Ile Ala Leu His Asn
403     290                 295                 300
405 Ile Arg Gly Glu Arg Leu Ala His Ile Leu Ser Gly Ala Asn Val Asn
406 305                 310                 315                 320
408 Phe His Gly Leu Arg Tyr Val Ser Glu Arg Cys Glu Leu Gly Glu Gln
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417 Tyr Arg Phe Ala Asp Ala Lys Asn Ala Cys Ile Phe Val Gly Val Arg
418     370                 375                 380
420 Leu Ser Arg Gly Leu Glu Glu Arg Lys Glu Ile Leu Gln Met Leu Asn
421 385                 390                 395                 400
423 Asp Gly Gly Tyr Ser Val Val Asp Leu Ser Asp Asp Glu Met Ala Lys
424                 405                 410                 415
426 Leu His Val Arg Tyr Met Val Gly Gly Arg Pro Ser His Pro Leu Gln
427             420                 425                 430
429 Glu Arg Leu Tyr Ser Phe Glu Phe Pro Glu Ser Pro Gly Ala Leu Leu
430         435                 440                 445
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433     450                 455                 460
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436 465                 470                 475                 480
438 Leu Gly Asp His Glu Phe Asp Phe Glu Thr Arg Leu Asn Glu Leu Gly
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     462             20                  25                  30
     464 ccg cta caa aaa atg gaa aaa ctg tcg tcg cgt ctt gat aac gtc att     144
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     466         35                  40                  45
     468 ctg gtg aag cgc gaa gat cgc cag cca gtg cac agc ttt aag ctg cgc     192
     469 Leu Val Lys Arg Glu Asp Arg Gln Pro Val His Ser Phe Lys Leu Arg
     470     50                  55                  60
     472 ggc gca tac gcc atg atg gcg ggc ctg acg gaa gaa cag aaa gcg cac     240
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     474 65                  70                  75                  80
     476 ggc gtg atc act gct tct gcg ggt aac cac gcg cag ggc gtc gcg ttt     288
     477 Gly Val Ile Thr Ala Ser Ala Gly Asn His Ala Gln Gly Val Ala Phe
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RAW SEQUENCE LISTING DATE: 02/28/2006
PATENT APPLICATION: US/10/567,749 TIME: 12:03:09

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486         115                 120                 125
488 ctg ctc cac ggc gcg aac ttt gat gaa gcg aaa gcc aaa gcg atc gaa      432
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490     130                 135                 140
492 ctg tca cag cag cag ggg ttc acc tgg gtg ccg ccg ttc gac cat ccg      480
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494 145                 150                 155                 160
496 atg gtg att gcc ggg caa ggc acg ctg gcg ctg gaa ctg ctc cag cag      528
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500 gac gcc cat ctc gac cgc gta ttt gtg cca gtc ggc ggc ggc ggt ctg      576
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502             180                 185                 190
504 gct gct ggc gtg gcg gtg ctg atc aaa caa ctg atg ccg caa atc aaa      624
505 Ala Ala Gly Val Ala Val Leu Ile Lys Gln Leu Met Pro Gln Ile Lys
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515 225                 230                 235                 240
517 ggc gta gcg gta aaa cgc atc ggt gac gaa acc ttc cgt tta tgc cag      768
518 Gly Val Ala Val Lys Arg Ile Gly Asp Glu Thr Phe Arg Leu Cys Gln
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521 gag tat ctc gac gac atc atc acc gtc gat agc gat gcg atc tgt gcg      816
522 Glu Tyr Leu Asp Asp Ile Ile Thr Val Asp Ser Asp Ala Ile Cys Ala
523             260                 265                 270
525 gcg atg aag gat tta ttc gaa gat gtg cgc gcg gtg gcg aaa ccc tct      864
526 Ala Met Lys Asp Leu Phe Glu Asp Val Arg Ala Val Ala Lys Pro Ser
527         275                 280                 285
529 ggc gcg ctg gcg ctg gcg gga atg aaa aaa tat atc gcc ctg cac aac      912
530 Gly Ala Leu Ala Leu Ala Gly Met Lys Lys Tyr Ile Ala Leu His Asn
531     290                 295                 300
533 att cgc ggc gaa cgg ctg gcg cat att ctt tcc ggt gcc aac gtg aac      960
534 Ile Arg Gly Glu Arg Leu Ala His Ile Leu Ser Gly Ala Asn Val Asn
535 305                 310                 315                 320
537 ttc cac ggc ctg cgc tac gtc tca gaa cgc tgc gaa ctg ggc gaa cag     1008
538 Phe His Gly Leu Arg Tyr Val Ser Glu Arg Cys Glu Leu Gly Glu Gln
539                 325                 330                 335
541 cgt gaa gcg ttg ttg gcg gtg acc att ccg gaa gaa aaa ggc agc ttc     1056
542 Arg Glu Ala Leu Leu Ala Val Thr Ile Pro Glu Glu Lys Gly Ser Phe
543             340                 345                 350
545 ctc aaa ttc tgc caa ctg ctt ggc ggg cgt tcg gtc acc gag ttc aac     1104
```

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Input Set : A:\pto.da.txt
Output Set: N:\CRF4\02282006\J567749.raw

```
546 Leu Lys Phe Cys Gln Leu Leu Gly Gly Arg Ser Val Thr Glu Phe Asn
547         355                 360                 365
549 tac cgt ttt gcc gat gcc aaa aac gcc tgc atc ttt gtc ggt gtg cgc     1152
550 Tyr Arg Phe Ala Asp Ala Lys Asn Ala Cys Ile Phe Val Gly Val Arg
551     370                 375                 380
553 ctg agc cgc ggc ctc gaa gag cgc aaa gaa att ttg cag atg ctc aac     1200
554 Leu Ser Arg Gly Leu Glu Glu Arg Lys Glu Ile Leu Gln Met Leu Asn
555 385                 390                 395                 400
557 gac ggc ggc tac agc gtg gtt gat ctc tcc gac gac gaa atg gcg aag     1248
558 Asp Gly Gly Tyr Ser Val Val Asp Leu Ser Asp Asp Glu Met Ala Lys
559                 405                 410                 415
561 cta cac gtg cgc tat atg gtc ggc gga cgt cca tcg cat ccg ttg cag     1296
562 Leu His Val Arg Tyr Met Val Gly Gly Arg Pro Ser His Pro Leu Gln
563             420                 425                 430
565 gaa cgc ctc tac agc ttc gaa ttc ccg gaa tca ccg ggc gcg ctg ctg     1344
566 Glu Arg Leu Tyr Ser Phe Glu Phe Pro Glu Ser Pro Gly Ala Leu Leu
567         435                 440                 445
569 cgc ttc ctc aac acg ctg ggt acg tac tgg aac att tct ttg ttc cac     1392
570 Arg Phe Leu Asn Thr Leu Gly Thr Tyr Trp Asn Ile Ser Leu Phe His
571     450                 455                 460
574 tat cgc agc cat ggc acc gac tac ggg cgc gta ctg gcg gcg ttc gaa     1440
575 Tyr Arg Ser His Gly Thr Asp Tyr Gly Arg Val Leu Ala Ala Phe Glu
576 465                 470                 475                 480
578 ctt ggc gac cat gaa ccg gat ttc gaa acc cgg ctg aat gag ctg ggc     1488
579 Leu Gly Asp His Glu Pro Asp Phe Glu Thr Arg Leu Asn Glu Leu Gly
580                 485                 490                 495
582 tac gat tgc cac gac gaa acc aat aac ccg gcg ttc agg ttc ttt ttg     1536
583 Tyr Asp Cys His Asp Glu Thr Asn Asn Pro Ala Phe Arg Phe Phe Leu
584             500                 505                 510
586 gcg ggt tag                                                       1545
587 Ala Gly
E--> 590 <210> SEQ ID NO: 8<211> 514<212> PRT<213> Escherichia coli
E--> 591
E--> 591
E--> 591
W--> 591 <400> SEQUENCE: 8
592 Met Ala Asp Ser Gln Pro Leu Ser Gly Ala Pro Glu Gly Ala Glu Tyr
593 1               5                   10                  15
595 Leu Arg Ala Val Leu Arg Ala Pro Val Tyr Glu Ala Ala Gln Val Thr
596             20                  25                  30
598 Pro Leu Gln Lys Met Glu Lys Leu Ser Ser Arg Leu Asp Asn Val Ile
599         35                  40                  45
601 Leu Val Lys Arg Glu Asp Arg Gln Pro Val His Ser Phe Lys Leu Arg
602     50                  55                  60
604 Gly Ala Tyr Ala Met Met Ala Gly Leu Thr Glu Glu Gln Lys Ala His
605 65                  70                  75                  80
607 Gly Val Ile Thr Ala Ser Ala Gly Asn His Ala Gln Gly Val Ala Phe
608                 85                  90                  95
610 Ser Ser Ala Arg Leu Gly Val Lys Ala Leu Ile Val Met Pro Thr Ala
```

hard Return Enter

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Input Set : A:\pto.da.txt
Output Set: N:\CRF4\02282006\J567749.raw

```
611                 100                 105                 110
613 Thr Ala Asp Ile Lys Val Asp Ala Val Arg Gly Phe Gly Gly Glu Val
614         115                 120                 125
616 Leu Leu His Gly Ala Asn Phe Asp Glu Ala Lys Ala Lys Ala Ile Glu
617     130                 135                 140
619 Leu Ser Gln Gln Gln Gly Phe Thr Trp Val Pro Pro Phe Asp His Pro
620 145                 150                 155                 160
622 Met Val Ile Ala Gly Gln Gly Thr Leu Ala Leu Glu Leu Leu Gln Gln
623                 165                 170                 175
625 Asp Ala His Leu Asp Arg Val Phe Val Pro Val Gly Gly Gly Gly Leu
626                 180                 185                 190
629 Ala Ala Gly Val Ala Val Leu Ile Lys Gln Leu Met Pro Gln Ile Lys
630         195                 200                 205
632 Val Ile Ala Val Glu Ala Glu Asp Ser Ala Cys Leu Lys Ala Ala Leu
633     210                 215                 220
635 Asp Ala Gly His Pro Val Asp Leu Pro Arg Val Gly Leu Phe Ala Glu
636 225                 230                 235                 240
638 Gly Val Ala Val Lys Arg Ile Gly Asp Glu Thr Phe Arg Leu Cys Gln
639                 245                 250                 255
641 Glu Tyr Leu Asp Asp Ile Ile Thr Val Asp Ser Asp Ala Ile Cys Ala
642                 260                 265                 270
644 Ala Met Lys Asp Leu Phe Glu Asp Val Arg Ala Val Ala Lys Pro Ser
645         275                 280                 285
647 Gly Ala Leu Ala Leu Ala Gly Met Lys Lys Tyr Ile Ala Leu His Asn
648     290                 295                 300
650 Ile Arg Gly Glu Arg Leu Ala His Ile Leu Ser Gly Ala Asn Val Asn
651 305                 310                 315                 320
653 Phe His Gly Leu Arg Tyr Val Ser Glu Arg Cys Glu Leu Gly Glu Gln
654                 325                 330                 335
656 Arg Glu Ala Leu Leu Ala Val Thr Ile Pro Glu Glu Lys Gly Ser Phe
657                 340                 345                 350
659 Leu Lys Phe Cys Gln Leu Leu Gly Gly Arg Ser Val Thr Glu Phe Asn
660         355                 360                 365
662 Tyr Arg Phe Ala Asp Ala Lys Asn Ala Cys Ile Phe Val Gly Val Arg
663     370                 375                 380
665 Leu Ser Arg Gly Leu Glu Glu Arg Lys Glu Ile Leu Gln Met Leu Asn
666 385                 390                 395                 400
668 Asp Gly Gly Tyr Ser Val Val Asp Leu Ser Asp Asp Glu Met Ala Lys
669                 405                 410                 415
671 Leu His Val Arg Tyr Met Val Gly Gly Arg Pro Ser His Pro Leu Gln
672                 420                 425                 430
674 Glu Arg Leu Tyr Ser Phe Glu Phe Pro Glu Ser Pro Gly Ala Leu Leu
675         435                 440                 445
677 Arg Phe Leu Asn Thr Leu Gly Thr Tyr Trp Asn Ile Ser Leu Phe His
678     450                 455                 460
680 Tyr Arg Ser His Gly Thr Asp Tyr Gly Arg Val Leu Ala Ala Phe Glu
681 465                 470                 475                 480
683 Leu Gly Asp His Glu Pro Asp Phe Glu Thr Arg Leu Asn Glu Leu Gly
684                 485                 490                 495
```

RAW SEQUENCE LISTING DATE: 02/28/2006
PATENT APPLICATION: US/10/567,749 TIME: 12:03:09

Input Set : A:\pto.da.txt
Output Set: N:\CRF4\02282006\J567749.raw

```
    686 Tyr Asp Cys His Asp Glu Thr Asn Asn Pro Ala Phe Arg Phe Phe Leu
    687             500                 505                 510
    689 Ala Gly
E--> 692 <210> SEQ ID NO: 9<211> 1548<212> DNA<213> Escherichia coli
W--> 694 <220> FEATURE:<221> DNA<222> (1)..(1548)<223>
W--> 695
E--> 697
E--> 698
E--> 698
    698 <400> SEQUENCE: 9
    699 tcgcgatctg gtactgtaag gggaaataga gatgacacac gataataaat tgcaggttga     60
    701 agctattaaa cgcggcacgg taattgacca tatccccgcc cagatcggtt ttaagctgtt    120
    703 gagtctgttc aagctgaccg aaacggatca gcgcatcacc attggtctga acctgccttc    180
    705 tggcgagatg ggccgcaaag atctgatcaa aatcgaaaat acctttttga gtgaagatca    240
    707 agtagatcaa ctggcattgt atgcgccgca agccacggtt aaccgtatcg acaactatga    300
    709 agtggtgggt aaatcgcgcc caagtctgcc ggagcgcatc gacaatgtgc tggtctgccc    360
    711 gaacagcaac tgtatcagcc atgccgaacc ggtttcatcc agctttgccg tgcgaaaacg    420
    713 cgccaatgat atcgcgctca aatgcaaata ctgtgaaaaa gagttttccc ataatgtggt    480
    715 gctggcaatt taattgcggt tggtaataaa agtctggctc cctata atg agc aag      535
    716                                                 Met Ser Gln
    717                                                 1
    719 act ttt tac cgc tgt aat aaa gga gaa atc atg agc aaa act atc gcg      583
    720 Thr Phe Tyr Arg Cys Asn Lys Gly Glu Ile Met Ser Lys Thr Ile Ala
    721     5                   10                  15
    723 acg gaa aat gca ccg gca gct atc ggt cct tac gta cag ggc gtt gat      631
    724 Thr Glu Asn Ala Pro Ala Ala Ile Gly Pro Tyr Val Gln Gly Val Asp
    725 20                  25                  30                  35
    727 ctg ggc aat atg atc atc acc tcc ggt cag atc ccg gta aat ccg aaa      679
    728 Leu Gly Asn Met Ile Ile Thr Ser Gly Gln Ile Pro Val Asn Pro Lys
    729                 40                  45                  50
    731 acg ggc gaa gta ccg gca gac gtc gct gca cag gca cgt cag tcg ctg      727
    732 Thr Gly Glu Val Pro Ala Asp Val Ala Ala Gln Ala Arg Gln Ser Leu
    733             55                  60                  65
    735 gat aac gta aaa gcg atc gtc gaa gcc gct ggc ctg aaa gtg ggc gac      775
    736 Asp Asn Val Lys Ala Ile Val Glu Ala Ala Gly Leu Lys Val Gly Asp
    737         70                  75                  80
    739 atc gtt aaa act acc gtg ttt gta aaa gat ctg aac gac ttc gca acc      823
    740 Ile Val Lys Thr Thr Val Phe Val Lys Asp Leu Asn Asp Phe Ala Thr
    741     85                  90                  95
    743 gta aac gcc act tac gaa gcc ttc ttc acc gaa cac aac gcc acc ttc      871
    744 Val Asn Ala Thr Tyr Glu Ala Phe Phe Thr Glu His Asn Ala Thr Phe
    745 100                 105                 110                 115
    747 ccg gca cgt tct tgc gtt gaa gtt gcc cgt ctg ccg aaa gac gtg aag      919
    748 Pro Ala Arg Ser Cys Val Glu Val Ala Arg Leu Pro Lys Asp Val Lys
    749                 120                 125                 130
    752 att gag atc gaa gcg atc gct gtt cgt cgc taa tcttgatgga aatccgggct    972
    753 Ile Glu Ile Glu Ala Ile Ala Val Arg Arg
    754             135                 140
    756 atcatgcccg gattaagtct gatgacaaac gcaaaatcgc ctgatgcgct acgcttatca   1032
```

RAW SEQUENCE LISTING DATE: 02/28/2006
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Input Set : A:\pto.da.txt
Output Set: N:\CRF4\02282006\J567749.raw

758 ggcctacgtg attcctgcaa tttattgaat ttgttggccg gataaggcat ttacgccgca 1092
760 tccggcatga acaaaactca ctttgtctac aatctgaatc ggggctatcg tgcccagttt 1152
762 attctttatt gccagccgta acgacggcta tagaaccctt tcaccaactg ggttaatgtc 1212
764 atataccctg ccagaatcgc aaccagccac gggaaatagc ttaacggcag cgcctgtaat 1272
766 tgcagataac tggccagcgg tgaaaacggc aatgcgatcc cgacaatcat cacgatcacg 1332
768 gtcatgatca ttaacggcca cgatgcacag ctctgaataa acggcacacg gcgggtgcgg 1392
770 atcatatgca caatcagcgt ttgcgacagt aagcccacca caaaccatcc cgactggaac 1452
772 agcgtttgcg tttccggcgt gttggcatgg aatacccacc acatcaggca aaacgtcaaa 1512
774 atatcgaaga tcgagctgat cggtccgaag aagatc 1548

E--> 777 <210> SEQ ID NO: 10<211> 141<212> PRT<213> Escherichia coli
E--> 776
E--> 778
E--> 778
W--> 778 <400> SEQUENCE: 10

779 Met Ser Gln Thr Phe Tyr Arg Cys Asn Lys Gly Glu Ile Met Ser Lys
780 1 5 10 15
782 Thr Ile Ala Thr Glu Asn Ala Pro Ala Ala Ile Gly Pro Tyr Val Gln
783 20 25 30
785 Gly Val Asp Leu Gly Asn Met Val Ile Thr Ser Gly Gln Ile Pro Val
786 35 40 45
788 Asn Pro Lys Thr Gly Glu Val Pro Ala Asp Val Ala Ala Gln Ala Arg
789 50 55 60
791 Gln Ser Leu Asp Asn Val Lys Ala Ile Val Glu Ala Ala Gly Leu Lys
792 65 70 75 80
794 Val Gly Asp Ile Val Lys Thr Thr Val Phe Val Lys Asp Leu Asn Asp
795 85 90 95
797 Phe Ala Thr Val Asn Ala Thr Tyr Glu Ala Phe Phe Thr Glu His Asn
798 100 105 110
800 Ala Thr Phe Pro Ala Arg Ser Cys Val Glu Val Ala Arg Leu Pro Lys
801 115 120 125
803 Asp Val Lys Ile Glu Ile Glu Ala Ile Ala Val Arg Arg
804 130 135 140

VERIFICATION SUMMARY DATE: 02/28/2006
PATENT APPLICATION: US/10/567,749 TIME: 12:03:11

Input Set : A:\pto.da.txt
Output Set: N:\CRF4\02282006\J567749.raw

L:4 M:270 C: Current Application Number differs, Replaced Current Application No
L:4 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:0 M:282 E: Numeric Field Identifier Missing, <120> TITLE INVENTION
L:0 M:201 W: Mandatory field data missing, <130> FILE REFERENCE
L:4 M:283 W: Missing Blank Line separator, <160> field identifier
L:5 M:281 W: Numeric Fields not Ordered, <220> not ordered!.
L:5 M:283 W: Missing Blank Line separator, <220> field identifier
L:5 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:7 M:282 E: Numeric Field Identifier Missing, <210> is required.
L:7 M:282 E: Numeric Field Identifier Missing, <211> is required.
L:7 M:282 E: Numeric Field Identifier Missing, <212> is required.
L:7 M:282 E: Numeric Field Identifier Missing, <213> is required.
L:7 M:212 E: (34) Invalid or duplicate Sequence ID Number, SEQUENCE ID NOS:0 differs:1
L:92 M:212 E: (34) Invalid or duplicate Sequence ID Number, SEQ ID NO: 2<211> 330<212>
PRT<213> Escherichia coli<400> 2
L:93 M:282 E: Numeric Field Identifier Missing, <211> is required.
L:93 M:282 E: Numeric Field Identifier Missing, <212> is required.
L:93 M:282 E: Numeric Field Identifier Missing, <213> is required.
L:93 M:200 E: Mandatory Header Field missing, <400> is required
L:157 M:212 E: (34) Invalid or duplicate Sequence ID Number, SEQ ID NO: 3<211> 993<212>
DNA<213> Escherichia coli<220><221> Allele<222>
L:160 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:162 M:282 E: Numeric Field Identifier Missing, <211> is required.
L:162 M:282 E: Numeric Field Identifier Missing, <212> is required.
L:162 M:282 E: Numeric Field Identifier Missing, <213> is required.
L:197 M:212 E: (34) Invalid or duplicate Sequence ID Number, SEQ ID NO: 4<211> 75<212>
DNA<213> Escherichia coli<220><221> tRNA<222>
L:200 M:282 E: Numeric Field Identifier Missing, <211> is required.
L:200 M:282 E: Numeric Field Identifier Missing, <212> is required.
L:200 M:282 E: Numeric Field Identifier Missing, <213> is required.
L:200 M:200 E: Mandatory Header Field missing, <220> Tag not found for SEQ ID#:4
L:207 M:212 E: (34) Invalid or duplicate Sequence ID Number, SEQ ID NO: 5<211> 1545<212>
DNA<213> Escherichia coli<220><221> CDS<222>
L:210 M:282 E: Numeric Field Identifier Missing, <211> is required.
L:210 M:282 E: Numeric Field Identifier Missing, <212> is required.
L:210 M:282 E: Numeric Field Identifier Missing, <213> is required.
L:210 M:200 E: Mandatory Header Field missing, <220> Tag not found for SEQ ID#:5
L:345 M:212 E: (34) Invalid or duplicate Sequence ID Number, SEQ ID NO: 6<211> 514<212>
PRT<213> Escherichia coli
L:346 M:282 E: Numeric Field Identifier Missing, <211> is required.
L:346 M:282 E: Numeric Field Identifier Missing, <212> is required.
L:346 M:282 E: Numeric Field Identifier Missing, <213> is required.
L:346 M:283 W: Missing Blank Line separator, <400> field identifier
L:447 M:212 E: (34) Invalid or duplicate Sequence ID Number, SEQ ID NO: 7<211> 1545<212>
DNA<213> Escherichia coli
L:449 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:452 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:455 M:282 E: Numeric Field Identifier Missing, <211> is required.
L:455 M:282 E: Numeric Field Identifier Missing, <212> is required.
L:455 M:282 E: Numeric Field Identifier Missing, <213> is required.
L:590 M:212 E: (34) Invalid or duplicate Sequence ID Number, SEQ ID NO: 8<211> 514<212>
PRT<213> Escherichia coli
L:591 M:282 E: Numeric Field Identifier Missing, <211> is required.

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L:591 M:282 E: Numeric Field Identifier Missing, <212> is required.
L:591 M:282 E: Numeric Field Identifier Missing, <213> is required.
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VERIFICATION SUMMARY DATE: 02/28/2006
PATENT APPLICATION: US/10/567,749 TIME: 12:03:11

Input Set : A:\pto.da.txt
Output Set: N:\CRF4\02282006\J567749.raw

L:591 M:283 W: Missing Blank Line separator, <400> field identifier
L:692 M:212 E: (34) Invalid or duplicate Sequence ID Number, SEQ ID NO: 9<211> 1548<212> DNA<213> Escherichia coli
L:694 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:695 M:283 W: Missing Blank Line separator, <220> field identifier
L:695 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:698 M:282 E: Numeric Field Identifier Missing, <211> is required.
L:698 M:282 E: Numeric Field Identifier Missing, <212> is required.
L:698 M:282 E: Numeric Field Identifier Missing, <213> is required.
L:777 M:212 E: (34) Invalid or duplicate Sequence ID Number, SEQ ID NO: 10<211> 141<212> PRT<213> Escherichia coli
L:778 M:282 E: Numeric Field Identifier Missing, <211> is required.
L:778 M:282 E: Numeric Field Identifier Missing, <212> is required.
L:778 M:282 E: Numeric Field Identifier Missing, <213> is required.
L:778 M:283 W: Missing Blank Line separator, <400> field identifier
L:4 M:203 E: No. of Seq. differs, <160> Number Of Sequences:Input (10) Counted (9)

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